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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/730,581	12/08/2003	Per-Olof Davidsson	03384- P0009A	2101

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EXAMINER

LE, DAVID D

ART UNIT PAPER NUMBER

3681

DATE MAILED: 07/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/730,581

Applicant(s)

DAVIDSSON, PER-OLOF

Examiner

David D. Le

Art Unit

3681

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) 3-5 and 8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 6 and 7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 11/12/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. This is the first Office action on the merits of Application No. 10/730,581, filed on 08 December 2003. Claims 1-8 are pending.

Documents

2. The following documents have been received and filed as part of the patent application:
 - Information Disclosure Statement, received on 11/12/04
 - Declaration and Power of Attorney, received on 05/24/04
 - Foreign Priority Document, received on 12/08/03

Election/Restrictions

3. Applicant's election without traverse of species F (Fig. 9), claims 1-3, 6 and 7, in the reply filed on 06 May 2005 is acknowledged.

Claim 3 is also withdrawn from further consideration because claim 3 at least requires, (1) lines from the differential pump through the electrically control throttle or pressure valve to the clutch; and (2) the feeder pump and the differential pump to be connected in series by means of a check-valve between the overflow valve and the feeder pump. The elected species F (Fig. 9) does not disclose such arrangement, as recited in claim 3.

Accordingly, claims 3-5 and 8 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species.

Specification

4. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

5. The abstract of the disclosure is objected to because it contains legal phraseology "means". Correction is required. See MPEP § 608.01(b).

Claim Objections

6. Claim 1 is objected to because of the following informalities:

- Claim 1, lines 3 and 4 recite "--". To avoid any possible confusion, Examiner recommends deleting those "--" from the claim.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. **Claims 1-2 and 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Patent No. 5,201,820 to Hamada et al. in view of U. S. Patent No. 5,687,824 to Hara et al.**

Claims 1-2 and 6-7:

Hamada (i.e., Figs. 1-2; column 4, line 21 – column 8, line 66) discloses a power transmission system comprising:

- Two rotatable, coaxial shaft members (i.e., Fig. 1, being the output shaft of bevel gear device 6 and the input shaft of the bevel gear device 8);
- A clutch (i.e., Fig. 1, element 23) between the two shaft members and engageable to counteract rotational speed differential between the shaft members;
- Wherein the clutch (23) inherently includes a hydraulic piston in the actuation oil chamber (30), which is under control of an pressure valve (31);
- A clutch pump (i.e., Fig. 1; element 21 or 22) for supplying hydraulic pressure to the hydraulic piston, the clutch pump being driven by at least one of the rotatable shaft members;

- Wherein the clutch pump (21 or 22) is a differential pump driven by the rotational speed differential between the two shaft members (i.e., column 5, line 51 – column 8, line 66);
- Wherein the hydraulic control circuit includes hydraulic pressure lines (i.e., Fig. 1, elements 28 and 29) from the differential pump, through the pressure valve (31) and check valve (34) to the clutch (23); and
- Wherein an overflow valve (35) is connected in parallel over the check-valve (34), see Fig. 1.

Hamada, however, does not explicitly disclose a feeder pump and a reservoir.

Hara (i.e., Fig. 7; column 6, line 8 – column 8, line 13), on the other hand, teaches a fluid circuit (16) comprising:

- A clutch pump (i.e., Fig. 7, element 100);
- A feeder pump (i.e., Fig. 7, element 104) for supplying and maintaining based pressure (i.e., column 6, line 63 – column 7, line 2);
- A reservoir (i.e., Fig. 7, element 105);
- A pressure valve (i.e., Fig. 7, element 126);
- A check-valve (i.e., Fig. 7, element 140); and
- Wherein the feeder pump (104) and the clutch pump (100) are connected in parallel by means of the check-valve (140) between the feeder pump (104) and the pressure valve (126), see Fig. 7.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hamada et al. to include a feeder pump, which is arranged in parallel with the clutch pump by means of the check-valve between the feeder pump and the pressure valve, in view of Hara, in order to effectively and reliably control of the clutch (Hara, i.e., column 2, lines 19-26).

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Lundstrom (U. S. Patent No. 5,979,631) teaches a device for transmitting torque between two rotatable shafts, as shown in Fig. 1.
- Sato et al. (U. S. Patent No. 5,111,716) teaches an automatic transmission comprising a hydraulic circuit, as shown in Fig. 1.
- Busold et al. (U. S. Patent No. 6,789,658) teaches a clutch system including a hydraulic circuit as shown in Figs. 1 and 2.
- Mohan et al. (U. S. Patent No. 5,967,285) teaches a multi-function control valve for a hydraulic coupling as shown in Fig. 1.
- Burns (U. S. Patent No. 6,315,097) teaches a hydraulic coupling with adaptive clutch control, as shown in Figs. 5-9.
- Porter (U. S. Patent No. 6,578,692) teaches an automated multi-speed transmission having a hydraulic circuit, as shown in Fig. 4.


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to David D. Le whose telephone number is 571-272-7092. The examiner can normally be reached on Mon-Fri (0700-1530).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles A. Marmor can be reached on 571-272-7095. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


ddl


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ART UNIT 3681